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| 10/525,473 | 02/23/2005 | Peter Bode | DE 020198 | 3287 |

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NXP, B.V.
NXP INTELLECTUAL PROPERTY DEPARTMENT
M/S41-SJ
1109 MCKAY DRIVE
SAN JOSE, CA 95131

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| EXAMINER |
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PEREZ, JAMES M

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| ART UNIT | PAPER NUMBER |
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2611

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04/21/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

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|------------------------------|--------------------------------------|------------------------------------|--|
| Office Action Summary | Application No. 10/525,473 | Applicant(s) BODE ET AL. | |
| | Examiner JAMES M. PEREZ | Art Unit 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. This Office Action is responsive to amendments in No. 10/525473, filed on Jan. 1, 2008. Currently claims 1-11 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 10 fails to fall within a statutory category of invention. These claims are directed to the program itself, not a process occurring as a result of executing the program, a machine programmed to operate in accordance with the program nor a manufactures structurally and functionally interconnected with the program in a manner which enables the program to act as a computer component and realize its functionality. It's clearly not direct to a composition of matter. Therefore, it's non-statutory under 35 U.S.C. 101.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2004/0208157)

With regards to claims 1, 7, and 11, Sander teaches a modulator and method for generating a digital I/Q signal having a plurality of slots (fig. 18A-B: paragraphs 17, 37, and 70-74), the modulator comprising:

means for introducing a dip in an envelope of the digital I/Q signal (fig. 18A-B: paragraphs 17, 37, and 70-74) in a guard interval between adjacent slots of the plurality of slots (paragraphs 12, 17, 37, and 70-74); and

said modulator being part of a transmitter (figs. 18A-B: paragraph 31).

Sander does not explicitly teach said slots are time-slots.

It would be obvious to one of ordinary skill in the art at the time of the invention that since the use of TDMA is disclosed (paragraphs 4-5 and 99) that said plurality of slots are obviously a plurality of time-slots in a TDMA system.

6. Claims 2-5 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2004/0208157) as applied to claims 1 and 7 above, and further in view of Vankka et al (Vankka et al. "A GSM/EDGE/WCDMA modulator with on-chip D/A converter for base station," IEEE International Solid-State Circuits Conference. Digest of Technical Papers, San Francisco, USA, vol. 1, 5 February 2002.)

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With regards to claims 2 and 8, Sander teaches the limitations of claims 1 and 7.

Sander does not explicitly teach a digital multiplier for multiplying the I signal and the Q signal of the I/Q signal with a dip-shaped waveform.

Vankka teaches a digital multiplier for multiplying the I signal and the Q signal of the I/Q signal with a dip-shaped waveform (fig. 14.4.1: elements "Ramp Generator and power level controller" and the multiplier in the digital domain).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the GSM/EDGE modulator with power ramping as disclosed in Sander with the GSM/EDGE power ramping of Vankka in order to create an improved system with increased capability to satisfy the EDGE and GSM spectral masks.

With regards to claims 3 and 9, Sander teaches the limitations of claims 1 and 7.

Sander teaches the means for introducing the dip in the envelope of the digital I/Q signal in the guard interval between adjacent time-slots (paragraphs 12, 17, 37, and 70-74) comprises:

means for generating a step-off response followed by a step-on response such that the dip is introduced in the envelope of the digital I/Q signal in the guard interval between adjacent time-slots (paragraphs 12, 17, 37, and 70-74).

Sander does not explicitly teach a pulse shaping filter; and by a step responses of the pulse shaping filter.

Vankka teaches a pulse shaping filter (fig. 14.4.1: fig. 14.4.1: elements "Ramp Generator and power level controller" and the multiplier in the digital domain); and

the step responses of the pulse shaping filter (page 1, col. 2, paragraphs 1-4).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the GSM/EDGE modulator with power ramping as disclosed in Sander with the GSM/EDGE power ramping of Vankka in order to create an improved system with increased capability to satisfy the EDGE and GSM spectral masks.

With regards to claim 4, Sander in view of Vankka teaches the limitations of claim 3.

Sander teaches means for filling digital zeros (fig. 4: paragraphs 17 and 38) into the pulse shaping filter during the guard interval such that the dip is introduced in the envelope of the digital I/Q signal in the guard interval between adjacent time-slots (paragraphs 12 , 17, 37, and 70-74).

With regards to claim 5, Sander in view of Vankka teaches the limitations of claim 3.

Sander teaches filling complex zeros (fig. 4: paragraphs 17 and 38) into the pulse shaping filter during the guard interval such that the dip is introduced in the envelope of the digital I/Q signal in the guard interval between adjacent time-slots (paragraphs 12 , 17, 37, and 70-74).

Sander does not explicitly teach a GMSK modulator with a linear branch and a quadratic branch and a multiplexer wherein the multiplexer feeds complex zeros into the branches.

Vankka teaches a GMSK modulator with a linear branch and a quadratic branch and a multiplexer (fig. 14.4.1) wherein the multiplexer feeds complex zeros into the branches (fig. 14.4.1).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the GSM/EDGE modulator with power ramping as disclosed in Sander with the GSM/EDGE power ramping of Vankka in order to create an improved system with increased capability to satisfy the EDGE and GSM spectral masks.

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sander (US 2004/0208157) as applied to claims 1 above, and further in view of Khoini-Poorfard (US 2002/0168026).

With regards to claim 6, Sander teaches the limitations of claim 1.

Sander teaches the modulator is a GMSK modulator and a QAM modulator (fig. 18A: elements 1803, 1822, 1899, and 1804).

Sander does not explicitly teach the use GMSK and 8PSK modulator.

Kohini-Poorfard teaches a combined GMSK and 8PSK modulator (paragraph 7).

Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to modify the GSM/EDGE modulator of Sander with the GSM/EDGE modulator of Khoini-Poorfard in order to reduce component redundancy of the GSM/EDGE modulator.

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8. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sander Sander (US 2004/0208157) as applied to claims 1 above, and further in view of Langberg (USPN 5,852,630).

With regards to claim 10, Sander discloses all the subject matter as described in claim 10, except for the method written by a software program embodied in a computer-readable medium.

Langberg teaches that the method and apparatus for a transceiver warm start activation procedure with precoding can be implement in software stored in a computer-readable medium. The computer-readable medium is an electronic, magnetic, optical, or other physical device or mean that can contain or store a computer program for use by or in connection with a computer-related system or method (col. 3, lines 51-65). One skilled in the art would have clearly recognized that the method of Sander would have been implemented in software. The implemented software would perform the same function of hardware for less expense, and increased adaptability, and flexibility. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the software as taught by Langberg in the method of Sander in order to reduce cost and improve the adaptability and flexibility of the communication system.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. PEREZ whose telephone number is

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(571)270-3231. The examiner can normally be reached on Monday through Friday:
9am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. M. P./
Examiner, Art Unit 2611
4/14/2008
/Shuwang Liu/
Supervisory Patent Examiner, Art Unit 2611